ANNUAL COMPLIANCE REPORT
ON PUBLIC WATER SYSTEM VIOLATIONS

January 1, 2002 - December 31, 2002

New Hampshire Department of Environmental Services
Water Division - Water Supply Engineering Bureau
(603) 271-3139

July 1, 2003

NHDES-R-WD-03-18

ANNUAL COMPLIANCE REPORT ON PUBLIC WATER SYSTEM VIOLATIONS

January 1, 2002 - December 31, 2002

Prepared by:
New Hampshire Department of Environmental Services
Water Division - Water Supply Engineering Bureau
(603) 271-3139

July 1, 2003

Michael Nolin, Commissioner
Harry T. Stewart, P.E., Director, Water Division

CONTENTS

APPENDICES

State of New Hampshire
Water Supply Engineering Bureau
Drinking Water Program Annual Report for 2002

INTRODUCTION

The 1996 Amendments to the Safe Drinking Water Act require each state to prepare an annual compliance report summarizing violations incurred by public water systems. The Annual Compliance Report is submitted to the Environmental Protection Agency (EPA) and is also made available to the public. The purpose of this report is to summarize the number and types of violations that public water systems receive as a result of failing to meet various requirements of the Safe Drinking Water Act.

New Hampshire's 2002 Annual Compliance Report contains an overview of New Hampshire's Drinking Water Program and a summary of regulated systems. Federal violations and their significance to various regulated monitoring programs and contaminants are discussed. Tables and charts reflect the compliance of New Hampshire's public water systems.

THE DRINKING WATER PROGRAM: AN OVERVIEW

The EPA established the Public Water System Supervision (PWSS) Program under the authority of the 1974 Safe Drinking Water Act (SDWA). Under the SDWA and the 1986 Amendments, EPA sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as Maximum Contaminant Levels (MCLs). For some regulations, EPA establishes treatment techniques in lieu of an MCL to control unacceptable levels of contaminants in water. The Agency also regulates how often public water systems (PWSs) monitor their water for contaminants and report the monitoring results to the States or EPA. Generally, the larger the population served by a water system, the more frequent the monitoring and reporting (M/R) requirements. In addition, EPA requires PWSs to monitor for unregulated contaminants to provide data for future regulatory development. Finally, EPA requires PWSs to notify their consumers when they have violated these regulations. The 1996 Amendments to the SDWA require public notification to include a clear and understandable explanation of the nature of the violation, its potential adverse health effects, and steps that the PWS is undertaking to correct the violation, and the possibility of alternative water supplies during the violation.

The SDWA applies to the 50 States, the District of Columbia, Indian Lands, Puerto Rico, the Virgin Islands, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and the Republic of Palau.

The SDWA allows states and territories to seek EPA approval to administer their own PWSS

Programs. The authority to run a PWSS Program is called primacy. To receive primacy, states must meet certain requirements laid out in the SDWA and the regulations, including the adoption of drinking water regulations that are at least as stringent as the Federal regulations and a demonstration that they can enforce the program requirements. Of the 56 states and territories, all but Wyoming and the District of Columbia have primacy. EPA Regional Offices administer the PWSS Programs within these two jurisdictions.

NH PUBLIC WATER SYSTEM PROFILE

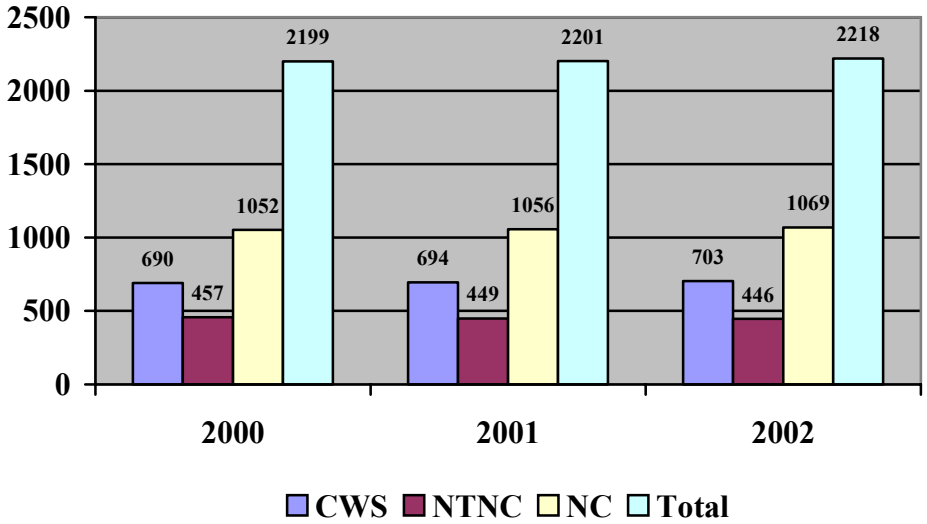
New Hampshire defines a public water system (PWS) as a system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or *designed to serve an average of at least 25 people* for at least 60 days each year. In accordance with NH rule, Env-Ws 301.02, the population served by a community PWS is determined by a household equivalent of 2.5 people, or 2.5 people per service connection.

There are three types of PWSs. PWSs can be community "CWS" or "C" (such as municipalities), non-transient/non-community "NTNC" or "P" (such as schools or factories), or transient/non-community "NC" or "N" (such as restaurants and campgrounds) systems. For this report, when the acronym "PWS" is used it means systems of all types unless specified in greater detail.

New Hampshire monitors approximately 2218 PWSs. The following chart reflects an average system count over the last three years.

The PWS inventory consists of 2218 systems, of which 703 are community "C" systems serving a population of 788,847. There are 446 non-transient/non-community "NTNC" systems and 1069 transient/ non-community "NC" systems. Most of New Hampshire's community PWSs are very small, serving a population of less than 500. Only 126 of the state's community PWSs serve a population greater than 500.

Public Water Systems



Community Systems by Population Ranges

Population Categories	Population Ranges	Number of Community Systems	Total Population Served
Large Systems	> 50,000	2	208,000
Medium Systems	10,001 - 50,000 3,301 - 10,000	17 17	300,586 87,118
Small Systems	1,001 - 3,300 501 - 1,000 101 - 500 25 - 100 <25	49 41 239 325 13	93,253 29,452 50,725 19,506 207

Based on data from June 2003.

Other NH Public Water System statistics as of June 2003:

COMMUNITY SYSTEMS	# Systems	Population Served
Groundwater Sources (only)	641	280,972
Surface Water Sources (only)	26	309,273
Combined Sources (Surface and Ground)	14	166,267
Purchased Sources (only)	21	32,280
Purchased Sources and Groundwater Sources	9	27,331
Total Populations Served by Community PWSs	703	788,847

NH has 703 community public water systems that serve approximately 788,850 people.

Given a total state population of 1,275,056 (Office of State Planning 2002 estimate), approximately 62% of the population is served by community systems.

Approximately 280,972 people, or about 21% of the state population, are served by community systems that draw “only” from groundwater.

Approximately 526,426 people, or about 41% of the population, are served by community

systems that draw from surface water.

Approximately 486,209 people, or about 38% of the population, use private wells or other non-public water systems.

All PWSs are required to comply with drinking water standards, water quality monitoring requirements, public notification requirements, and operational and construction standards. DES's Water Supply Engineering Bureau (WSEB) tracks and monitors compliance with regulations, enforces the regulations, administers the permit program, provides financial assistance through the State Revolving Fund (SRF) program, conducts sanitary surveys, provides technical assistance, and trains and certifies water system operators. WSEB has also implemented a source water protection program utilizing GIS (geographic information system) data.

ANNUAL STATE PWS REPORT

New Hampshire submits data to the Safe Drinking Water Information System (SDWIS/FED) on a quarterly basis. Data includes PWS inventory statistics, the incidence of Maximum Contaminant Level, Major Monitoring, and Treatment Technique violations, and the enforcement actions taken against violators. The annual compliance report that States are required to submit to EPA will provide a total annual representation of the numbers of violations for each of the four categories listed in section 1414(c)(3) of the Safe Drinking Water Act reauthorization. These four categories are: MCLs, treatment techniques, significant monitoring violations, and variances and exemptions. Included in this year's report is a new category entitled "Significant Consumer Notification Violations." EPA stores this data in an automated database called the Safe Drinking Water Information System (SDWIS).

The information in this report is based on New Hampshire's drinking water database as well as SDWIS. Although the two databases are mostly synchronized, there are a few discrepancies where SDWIS counts unresolved violations from past years, i.e., LCR and CCR. These discrepancies are noted in the Appendices.

Maximum Contaminant Level (MCLs) Violations

Under the Safe Drinking Water Act (SDWA), EPA sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as Maximum Contaminant Levels (MCLs). This report includes MCL violations for microbiological contaminants under the Total Coliform Rule and MCL violations for regulated chemical contaminants.

Treatment Techniques (TT) Violations

For some regulations, the EPA establishes treatment techniques (TTs) in lieu of an MCL to control unacceptable levels of certain contaminants. For example, treatment techniques have

been established for viruses, bacteria, and turbidity under the Surface Water Treatment Rule (SWTR). In some cases, such as the Lead and Copper Rule (LCR), once an exceedence has occurred, the PWS is required to conduct public education. Failure to do so results in a treatment technique (TT) violation. This report includes SWTR and LCR treatment technique violations for 2002.

Significant Monitoring Violations

A PWS is required to monitor and verify that the level of a contaminant, if present in the water, does not exceed the MCL. Generally the larger the population served, the more samples the PWS is required to take. If a PWS fails to have its water tested as required, then a monitoring violation occurs. For this report, significant monitoring violations are defined as any major monitoring violation that has occurred during the specified report interval. A major monitoring violation (except for the Surface Water Treatment Rule) occurs when no samples were taken or no results are reported during a compliance period. A major Surface Water Treatment Rule M/R violation occurs when fewer than 90% of the required samples are taken or no results are reported during a reporting interval.

Variances and Exemptions

Variances and exemptions to specific requirements under the Safe Drinking Water Act Amendments of 1996 may be granted under certain circumstances. If, due to the characteristics of the raw water sources reasonably available, a PWS cannot meet the MCL, a primacy state can grant the PWS a variance from the applicable primary drinking water regulation, with the condition that the system install the best available technology, treatment techniques, or other means which the Administrator finds are available (taking cost into account). Currently no New Hampshire PWS has been issued a variance or an exemption.

Significant Consumer Notification Violations

Every Community Water System is required to deliver to its customers a consumer confidence report, which is a brief annual water quality report. This report is to provide information on source water, the levels of any detected contaminants, and compliance with drinking water regulations, as well as include some educational material. A Community Water System that completely fails to provide its customers the required annual water quality report will incur a significant public notification violation.

COMPLIANCE SUMMARY

A summary of public water system violations for 2002 is included in Appendix A. The information includes the number of total violations and total number of systems in violation of a particular regulated contaminant. The regulatory contaminant categories are:

The Total Coliform Rule (TCR) or Bacteria Monitoring
Chemical Monitoring (Phase I, II, IIB, and V Rules and Radionuclides)
The Disinfectants/Disinfection Byproducts Rule (D/DBPR1)
The Lead and Copper Rule (LCR)
Surface Water Treatment Rule (SWTR)
Consumer Confidence Report Rule (CCR) Significant Public Notice

Violations from these programs and any resulting enforcement actions are the basis of the Annual Compliance Reports and can be found in Appendices B through E. A description of these programs and the pertinent violations follow.

The Total Coliform Rule (TCR) or Bacteria Monitoring

The Total Coliform Rule (TCR), promulgated in 1989, establishes legal limits for total coliform bacteria levels in drinking water. In addition, the TCR determines the type and frequency of bacteria testing that must be conducted by each public water system.

Coliform bacteria represent a broad class of bacteria commonly found in the environment. Coliforms are considered to be an "indicator" organism because their presence in drinking water suggests that other disease causing organisms may be present. Disease symptoms include diarrhea, cramps, nausea, vomiting, and associated headaches and fatigue. Although total coliform bacteria are generally not harmful themselves, infants, the elderly, and immuno-compromised people may be at increased risk. The presence of coliform bacteria in drinking water indicates that the source has become contaminated, the integrity of the distribution system has been compromised, or the treatment/disinfection equipment, if any, is not working properly.

If coliform bacteria are found in drinking water, the water system may need to take any number of corrective actions including flushing the system, repairing/upgrading system components, disinfecting the system, repairing treatment equipment, and enacting source protection measures.

The routine bacteria sampling regimen is determined by the classification of the system, the population served, and the physical configuration of the system. Typically, a community water system samples monthly, and a non-community system samples quarterly. A water system that has had no monitoring/reporting violations or bacterial maximum contaminant level (MCL) violations for a year, serves fewer than 1,000 people, does not use full-time chlorination, has no unresolved

significant deficiencies stemming from its last sanitary survey, and has no item or activity in its sanitary protective radius that could potentially contaminate the water, is eligible for a reduction in sampling frequency.

States are to report the following categories of TCR violations (SDWIS Contaminant Code 3100):

> ***Acute MCL violation:*** Indicates that fecal coliform or E. coli, potentially harmful bacteria, were found to be *"Present"* in the system's scheduled water sample, thereby violating the rule (SDWIS Violation Code 21.)
>
> ***Non-acute MCL violation:*** Indicates that total coliform bacteria were *"Present"* in the system's scheduled samples at a frequency that violates the rule. These are indicator bacteria and are not, generally, in themselves harmful (SDWIS Violation Code 22.)
>
> ***Major routine and repeat monitoring M/R violation:*** Indicates that a system did not submit any routine water samples during its scheduled monitoring period (SDWIS Violation Code 23) or did not submit any required repeat samples (SDWIS Violation Code 25.)

Under the TCR, whenever a water sample tests positive for total coliform bacteria, the sample must undergo further analysis to determine if fecal coliform or Escherichia coli ("E. coli") are present. Fecal coliform and E. coli bacteria are coliforms directly associated with fresh feces. Discovery of fecal coliform or E. coli will result in the immediate issuance of a "Boil Order" on the water system. The Boil Order will not be lifted until the system has been inspected to determine the source of the contamination, the necessary corrections have been made, and sufficient additional sampling has been conducted to indicate that the contamination has been eliminated. A water system will receive an "Acute MCL Violation" (SDWIS Violation Code 21) if a routine total coliform positive sample is followed by a fecal/E. coli positive repeat sample, or if a fecal/E. coli routine sample is followed by a total coliform positive repeat sample. Due to the direct threat to public health posed by the presence of fecal or E. coli bacteria, public notification is required as soon as possible, but no more than 24 hours after the discovery of the bacteria.

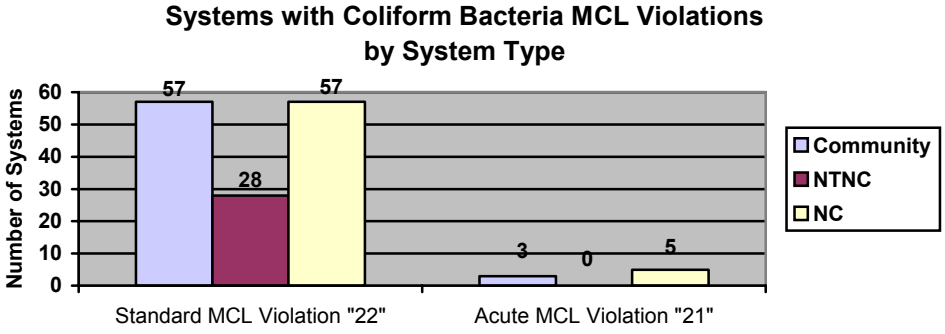
Systems that submit less than 40 samples in a sampling month are considered to be in compliance with the TCR if no more than one sample submitted during the month is positive for total coliform. Systems submitting 40 or more samples are in compliance if no more than 5% of all samples are positive. Systems that exceed the above limits receive a "Standard MCL Violation" (SDWIS Violation Code 22) and are required to perform public notification. A total coliform positive sample requires the water system to submit repeat samples within 24 hours.

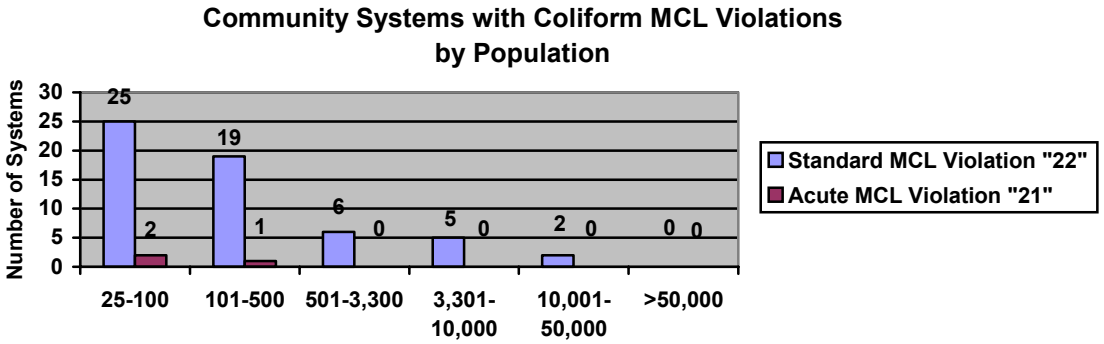
During 2002, 6% (142) of all 2,218 NH PWSs monitoring for TCR, received 157 standard or acute bacteria MCL violations. Of the systems with such violations, 85% served 500 or fewer people. As a general rule, a system must demonstrate at least 6 months of bacteria sampling results without incurring an MCL violation before WSEB will list the system as having returned to compliance. As

of June 2003, 97% (58 of 60) Community, 93% (26 of 28) NTNC and 81% (44 of 54) NC systems with MCL violations have returned to compliance.

The TCR also provides violations for failure to submit the appropriate number of samples for bacterial analysis. Submitting none of the required routine samples results in the issuance of a "Major Routine Monitoring/Reporting Violation" (SDWIS Violation Code 23); the submission of some, but not all, of the required routine samples results in a "Minor Monitoring/Reporting Violation" (SDWIS Violation Code 24). Submitting none of the required repeat samples results in the issuance of a "Major Repeat Monitoring/Reporting Violation" (SDWIS Violation Code 25); the submission of some, but not all, of the required repeat samples results in a "Minor Repeat Monitoring/Reporting Violation" (SDWIS Violation Code 26).

During 2002, 7% (148) of all NH PWSs, (2,218), received 191 Major Routine or Major Repeat Monitoring/Reporting Violations. Of the systems receiving such violations, 98% served 500 or fewer people. Generally, a system receiving a Monitoring/Reporting violation must sample according to schedule for 6 months before it is considered to have returned to compliance. Of the systems that received Major Monitoring/Reporting Violations in 2002, 78%, (116) have returned to compliance. Community (93%) and NTNC systems (90%) respectively, have had a higher rate of returning to compliance than NC systems (74%).





Chemical Monitoring

Water quality testing for chemical contaminants is much less frequent than for microbiological contaminants. Chronic exposure over a long period of time is usually necessary to experience a risk to health. Chemical monitoring includes: volatile organic compounds (also known as VOCs, which are solvents & hydrocarbons); synthetic organic compounds (also known as SOCs, which are pesticides and plastics); inorganic contaminants (also known as IOCs, which are nitrate, nitrite and metals); and radionuclides (RADs). Community and non-transient/non-community systems, with the exception of systems that solely use purchased water, are required to sample for all of the above parameters under New Hampshire rules. Transient/non-community systems are required to sample for nitrates once a year and nitrites once every three years.

Organic Contaminants: These are carbon-based compounds, such as industrial solvents and pesticides, which include VOCs and SOCs. These contaminants generally get into water through runoff from cropland, releases from underground storage tanks, discharges from factories, or accidental spills. EPA has set legal limits on 54 organic contaminants that are to be reported [40 CFR 141.61].

Inorganic Contaminants: These are non-carbon-based compounds, such as metals, nitrates, and asbestos which generally are naturally-occurring in some water, but can also get into water through farming, chemical manufacturing, and other human activities. EPA has established MCLs for 15 inorganic contaminants [40 CFR 141.62].

Radionuclides: These are radioactive particles that can occur naturally in water or result from human activity. EPA has set legal limits on 4 types of radionuclides: radium-226, radium-228, gross alpha, and beta particle/photon radioactivity [40 CFR 141.15 and 141.16]. Violations for these contaminants are reported using the following three categories:

> *Gross alpha:* SDWIS Contaminant Code 4000 for alpha radiation above MCL of 15 picocuries/liter. Gross alpha includes radium-226 but excludes radon and uranium.

Combined radium-226 and radium-228: SDWIS Contaminant Code 4010 for combined radiation from these two isotopes above MCL of 5 pCi/L.

Gross beta: SDWIS Contaminant Code 4101 for beta particle and photon radioactivity from man-made radionuclides above 4 millirem/year. This applies to systems serving populations greater than 100,000. *There is only one New Hampshire system that meets the criteria.*

Two types of Chemical monitoring violations are reported:

***Maximum Contaminant Level (MCL) Violation*:** MCL violations occur when the sample exceeds the MCL. (SDWIS Violation Code 02)

Monitoring and Reporting (M/R) Violation: Failure to sample. (SDWIS Violation Code 03)

In 2002, 19 PWSs incurred 20 MCL violations for regulated chemical contaminants. Two of the three systems with nitrate exceedences are daycares and have been receiving technical assistance to evaluate the source of nitrate contamination. These evaluations are still ongoing, however septic system failure and/or proximity are believed to be the source of nitrates. One system is undergoing modifications to its treatment system to prevent future exceedences. All systems' nitrate levels are currently below the MCL

NH tracks chemical data by six contaminant "sample" groups. These contaminant groups are used unless an individual IOC exceeds half the MCL, or an individual VOC or SOC is detected. When one of these situations occurs, the individual contaminant is tracked. The contaminant groups are as follows:

NH Chemical Sample Groups		NH Sampling Rules
IOCs	contains 11 regulated contaminants	All community and non-transient/non-community systems must sample all Phase II/IIB and V IOCs every three years. State rule requires ***non-transient/non-community*** systems to sample for fluoride.
Nitrates		All systems must sample annually.
Nitrites		All systems must sample every three years.
VOCs	contains 21 regulated contaminants	All new community and non-transient/non-community systems sample quarterly the first year, annually thereafter; or every three or six years with a waiver.
SOCs	contains 25 regulated contaminants NH has received waivers for 5 of the 30 regulated SOCs based on state pesticide use records. See Appendix A.	New community and non-transient/non-community systems sample annually, every three or six years with a waiver.
RADs	contains 2 regulated contaminants There is only one system in NH with a population greater than 100,000 and thus required to sample for man-made radionuclides.	All new community ***and non-transient/non-community*** systems sample quarterly, every three years thereafter. State rule requires ***non-transient/non-community*** systems to sample for RADs.

Group Contaminant Codes	**VOCs**	**SOCs**	**RADs**	**IOCs**	**Nitrates**	**Nitrites**
Total Systems with M/R Violations: 52	11/12	2	4	2/6	36	8
Total M/R Violations: 357	232	48	8	26	36	8
Total NH Groups Violations: 64	**Total Individual Chemical Contaminants:** 5*					

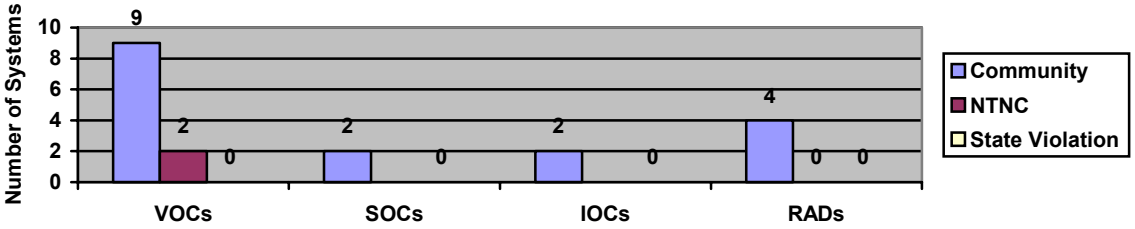
In addition to 2 systems having IOC violations, 2 systems had arsenic monitoring violations and 2 systems had fluoride violations. One system had Toluene in addition to 11 systems having VOC violations.* See Appendix A for individual contaminant monitoring violation counts.

WSEB issued 232 monitoring violations to 9 CWS and 3 NTNC systems regarding failure to conduct VOC analyses. As of June 2003, 8 of those violations have returned to compliance. Of the 48 monitoring violations issued to 2 CWSs for failure to monitor for SOCs, 1 has been returned to compliance. 4 CWS systems received 8 M/R violations for radiologicals and 2 of these sytems have been returned to compliance. Of the 6 systems receiving 26 IOC M/R violations, 1 was a NTNC and 5 were CWSs. Four systems (14 violations) have been returned to compliance. There were 36

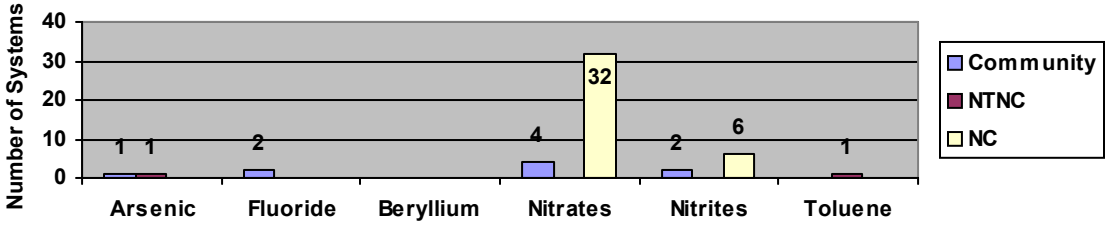
violations issued to 4 CWSs, 0 NTNCs, and 32 NCs for nitrate M/R violations. As of June 2003, 22 systems have been returned to compliance. Eight violations were issued to 2 CWS, 0 NTNC, and 6 NC systems for nitrite M/R violations. Four systems have been returned to compliance.

NH policy is to wait until subsequent required sampling, specifically make-up sampling, has been completed before determining that compliance has been achieved. Those systems outlined above with outstanding M/R violations have not been returned to compliance because as of June 2003, they have not yet submitted all required chemical samples.

Systems with Group Chemical Monitoring/Reporting Violations (03) by System Type

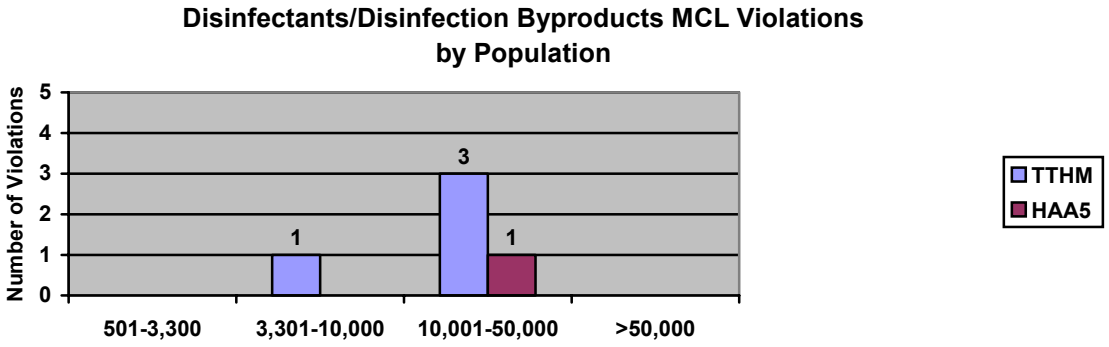


Systems with Individual Chemical Monitoring/Reporting Violations (03) by System Type (cont'd)



The Disinfectants/Disinfection Byproducts Rule (D/DBPR1)

Under this regulation, 14 NH surface water systems and one consecutive system (with service population >10,000) began monitoring and reporting monthly chlorine residual in January 2002. These systems also initiated monitoring disinfection byproducts and total organic carbon (TOC) (with the exception of the consecutive system) in the first quarter of 2002. Following four quarters of monitoring, five of these systems were in violation of the MCL for total trihalomethanes (TTHM) and one was in violation of the MCL for five haloacetic acids (HAA5). In addition, one system (Salem Water Department) was in violation of the treatment technique for TOC removal through a conventional filtration plant. There were no violations of the maximum residual disinfectant level (MRDL) for chlorine residual.



The Lead and Copper Rule (LCR)

This rule established national limits on lead and copper in drinking water [40 CFR 141.80-91]. Corrosion of lead and copper pipes and plumbing fixtures pose various health risks when the associated water is ingested, and can enter drinking water from household pipes and plumbing fixtures.

Lead contamination is a major concern today, especially when small children are involved. Sampling under this rule reflects this concern. The number of samples required is based on the system's population. Systems that do not exceed action levels, 0.015 mg/l for lead and 1.3 mg/l for copper, will sample each site twice the first year, once a year for the next three years, and then once every three years. Systems that exceed action levels need to do corrosion control studies, possibly provide treatment, and do additional sampling.

Community and non-transient/non-community systems are required to sample under this rule. Transient/non-community systems are exempt from the Lead and Copper Rule (LCR). States report violations of the LCR (SDWIS Contaminant Code 5000) in the following categories:

> ***Initial lead and copper tap M/R:*** Indicates that a system did not meet initial lead and copper testing requirements or failed to report the results of those tests to the state; or who incurred the initial tap monitoring violation prior to the calendar year M/R but failed to return to compliance prior to January 1. Systems failing to sample by January 1 of the following year continue to incur the violation until the required samples are taken. (SDWIS Violation Code 51)
>
> ***Follow-up or routine lead and copper tap M/R:*** Indicates that a system did not meet follow-up or routine lead and copper tap testing requirements or failed to report the results. As with the previous M/R violation, systems failing to sample by January 1 of the following year continue to incur the violation until the required samples are taken (SDWIS Violation Code 52)

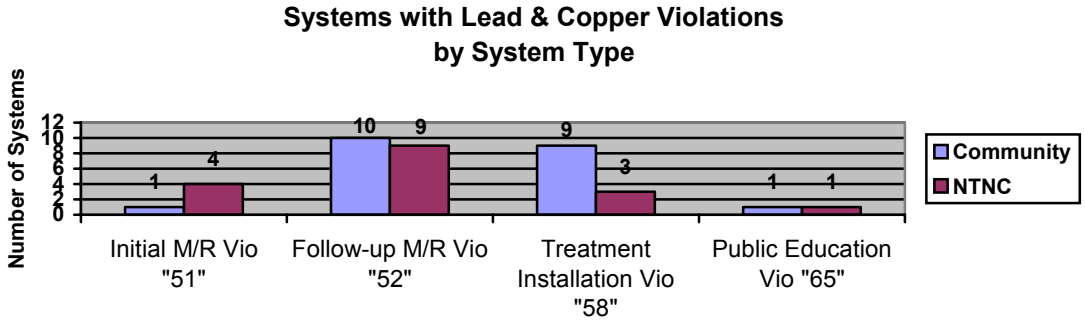
***Treatment installation TT*:** SDWIS Violation Codes 58 and 62 indicate a failure to install an optimal corrosion control treatment system (58) or a source water treatment system (62) which would reduce lead and copper levels in water at the tap. (One number is to be reported for the sum of violations in these two categories.) These violations are considered treatment technique violations.

***Public education violation TT*:** Indicates that a system did not provide required public education about reducing or avoiding lead intake from water. This violation is also considered a treatment technique violation. (SDWIS Violation Code 65)

Three systems failed to conduct initial sampling in 2002. All, including the two systems that incurred violations in 2001, returned to compliance in 2002.

There was significant decrease in the number of Follow-up Lead and Copper M/R Violations (SDWIS Violation Code 52) in 2002. Many of the violations incurred in 2000 were returned to compliance in 2001. However, there were 11 new violations incurred in 2002. All have currently returned to compliance. Of the 52 systems that failed to perform follow-up lead and copper sampling in 2001, 1 non-transient non-community system become inactive in 2002, and all other systems returned to compliance within 2002. The high rate of compliance may be attributed to Letters of Deficiency issued to the systems in February 2002.

In 2002, there were 12 violations for failure to install corrosion control treatment. All, but 1 violation, were incurred prior to 2002. Five systems returned to compliance by installing treatment within 2002 and two installed treatment in 2003. There were also 2 public notice violations that were incurred prior to 2002. Both returned to compliance within 2002.



Surface Water Treatment Rule (SWTR)

The Surface Water Treatment Rule (SWTR) establishes standards for the treatment of surface water systems and groundwater under the direct influence of surface water. Public water systems subject to the SWTR are required to provide filtration and disinfection to achieve minimum 3 log inactivation of Giardia lamblia and 4 log inactivation of viruses. In addition, under the IESWTR, surface water systems serving more than 10,000 must achieve zlog removal of Cryptosporidium. A system that has been required to filter and fails to install filtration would receive a treatment technique violation. Compliance is not achieved until filtration is installed. Monthly operating reports submitted to the DES documents monitoring for turbidity and free chlorine residual at the filtration plant, and monthly monitoring to confirm positive chlorine residual in the distribution system. Turbidity standards must be met in at least 95% of measurements taken each month, and chlorine residual in water entering the distribution system must not be less than 0.2 mg/l for more than four hours. Failure to meet these or other SWTR standards results in a treatment technique violation. A major monitoring violation occurs when fewer than 90% of the required samples are taken or when no results are reported during a reporting interval. A minor violation occurs when at least 90%, but not all, of the required numbers of samples are taken.

New Hampshire has 40 water systems that draw from surface water, 14 of which are combined surface/groundwater systems. Of the 40, 3 systems that serve a total population of 8,211, have achieved a waiver of filtration and submit monthly operating reports. Surface water serves a population of approximately 526,426, which is about 41% of the state's population.

The Surface Water Treatment Rule establishes criteria under which water systems supplied by surface water sources or groundwater sources under the direct influence of surface water must filter and disinfect their water [40 CFR 141, Subpart H]. Systems fall within two categories:

Filtered Systems: Water systems that have installed filtration treatment.

Unfiltered Systems: Water systems that have achieved a waiver from the requirement to filter.

Violations of the SWTR (SDWIS Contaminant Code 0200) are to be reported for the following four categories:

Monitoring, routine/repeat M/R (for filtered systems): Indicates a system's failure to carry out required water tests, or to report the results of those tests (SDWIS Violation Code 36.)

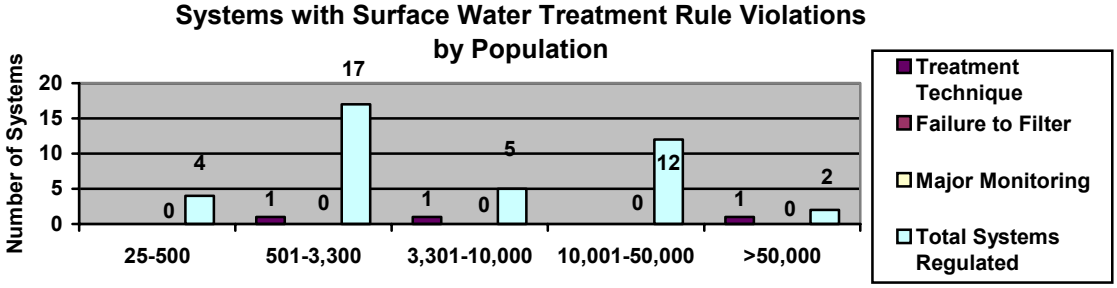
Monitoring, routine/repeat M/R (for unfiltered systems): Indicates a system's failure to carry out required water tests, or to report the results of those tests. (SDWIS Violation Code 31.)

Treatment techniques TT (for filtered systems): Shows a system's failure to properly treat

its water. (SDWIS Violation Code 41.)

Failure to filter TT (for unfiltered systems): Shows a system's failure to properly treat its water. Data for this violation code is supplied to the states by EPA (SDWIS Violation Code 42.) This code applies to previously unfiltered systems. All surface water systems are in compliance.

Three water systems received four treatment technique violations for 2002. All systems have since returned to compliance for these violations. There were no monitoring violations.



Consumer Confidence Report Rule (CCR)

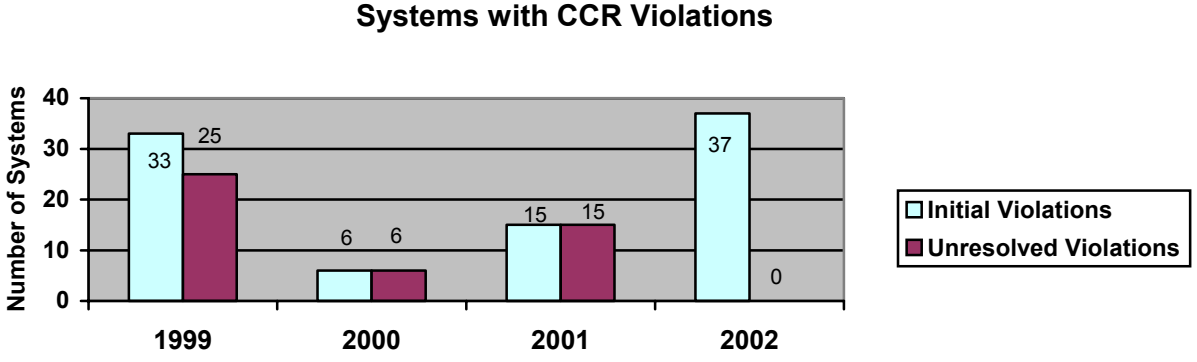
All community water systems are required to deliver to their customers a brief annual water quality report. This report is to include educational materials, and provide information on the PWS source water, the levels of any detected contaminants, and compliance with drinking water regulations. In addition, reports are to be submitted to the primacy agency. Any community system failing to complete the CCR requirements will incur the following violation:

> ***Significant Consumer Notification Violation*:** Any community water system that completely fails to provide the consumer confidence report during the calendar year (SDWIS Violation Code 71; Contaminant/Rule Code 7000).

As of 2002, there are a total of 60 community water systems with 83 Significant Consumer Notification Violations. New Hampshire received interim primacy for the Consumer Confidence Rule which gave NHDES enforcement authority for violations incurred in 2002. There were 37 public water systems out of 674 (5%) that failed to submit the 2002 CCR by July, 2002. Fourteen of these systems had failed to submit CCRs for previous years.

The vast majority of the water systems in violation for 2002 did complete their CCRs but forgot to submit a copy to the Water Supply Engineering Bureau (WSEB). When reminded to do so, 20 systems sent their CCR to WSEB by September. To follow up on the remaining 17 systems, 17 LOD's were issued and 9 Administrative Orders were given. This process was successful because these remaining 17 systems finally submitted a copy of their completed CCR to WSEB. As of May 2003, all 37 systems with 2002 violations were returned to compliance. Therefore, for the year 2002, New Hampshire had 100% compliance for CCR submittals.

Prior to 2002, the Environmental Protection Agency (Region 1) issued all enforcement actions related to CCR violations. There are still systems with violations ranging from 1999 to 2001 that have not been returned to compliance in SDWIS-FED.



WSEB COMPLIANCE ASSISTANCE AND ENFORCEMENT ACTIVITIES

The WSEB uses a variety of means to assist PWSs to maintain compliance with applicable SDWA and state regulations. The compliance assistance activities include: making available over the internet sampling schedules and analysis forms, mailing sampling schedules to key system representatives of each PWS, mailing reminder postcards or making phone calls as the end of a monitoring period approaches, offering regular operator training courses and additional special topic seminars, mailing the Bureau's newsletter to approximately 4,000 stakeholders, offering Fact Sheets on a wide variety of subjects, and providing technical assistance over the phone and during sanitary surveys.

Should a system fail to monitor according to schedule, exceed an MCL, violate a treatment technique, fail to perform public notice, or fail to correct a significant deficiency identified in a sanitary survey, the system is issued a letter of violation. In the majority of cases, a letter of violation is likely to cause system representatives to bring their water system back into compliance. In a small number of cases, additional enforcement action is required. If the violation is relatively minor, a Letter of Deficiency (LOD) is issued which requests certain actions to be completed within specified time periods. LODs seek voluntary compliance from the system owners and are not enforceable in and of themselves. More serious violations or repetitive violations result in the issuance of an Administrative Order and/or the imposition of Administrative Fines. On rare occasions, it has been necessary to refer a water system to the NH Attorney General's office for civil and/or criminal penalties.

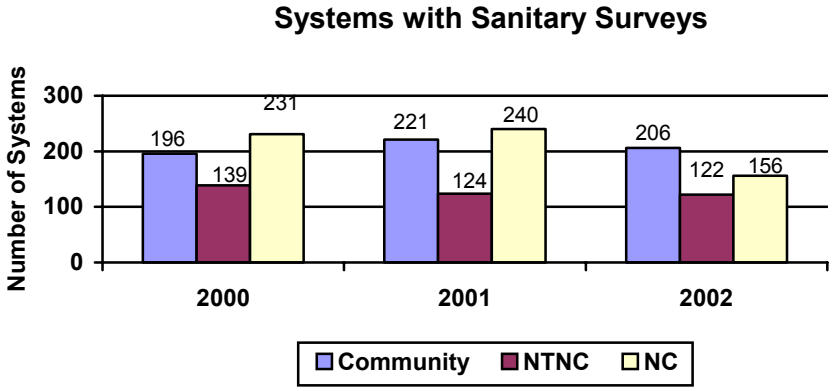
Of note is a new enforcement strategy that has been implemented in 2002. Because NH rules specify that sampling shall be conducted in the quarter specified in the master sampling schedule, we have opted to send out Notice of Violation (NOV) letters as soon as each quarter is complete. Systems that fail to sample during the assigned quarter are sent the NOV letter and make-up sampling is required as soon as possible. This provides for a more equitable enforcement response to all systems regardless of quarter assigned, promotes compliance by establishing DES's oversight capabilities, and also allows DES to better balance the processing of enforcement actions throughout the year.

The New Hampshire Drinking Water Program is very comprehensive. The various sections work closely with one another and all utilize the same database. Outreach, initiated by the Monitoring and Enforcement Section, as well as sanitary surveys and the Certified Operator program has enhanced compliance in New Hampshire.

Sanitary Surveys

DES staff conducts sanitary surveys, or water system inspections, every three years for Community

and NTNC systems, and every five years for NC systems. The water systems are inspected for compliance with drinking water program regulations. Any necessary water quality samples can also be taken during the survey. Surveys are one of the best ways of insuring proper protection of drinking water supplies and the proper operation of public water systems. In addition, periodic visits to the water systems allow the DES staff to update its data and gather other information on the water systems that is required under federal and state regulations. All new systems are surveyed as they come on line. DES staff conducted 484 sanitary surveys in 2002. In addition, there were 79 site visits including 37 site investigations, 8 technical visits, and 34 site visits for other reasons.



New Hampshire Drinking Water Operator Certification Program

The State of New Hampshire requires that all community and non-transient/non-community public water systems have a certified operator. These operators oversee many system operations to ensure a safe and adequate water supply to the system's customers. There are two categories of certification, treatment and distribution, divided into five levels of complexity. Each level has its own strict experience and education requirements and applicants must pass a certification exam with a grade of at least 70% to become certified. DES sponsors classes and seminars, and requires certified operators to maintain CEUs (continued education units.) New Hampshire currently has approximately 1007 active certified operators.

CONCLUSIONS

In general, New Hampshire tends to have a higher number of MCL occurrences than other states. Unlike most other states and territories, New Hampshire has an administrative rule, Env-Ws 322.11, which requires the owner of a PWS to enter into a written agreement with a certified laboratory to perform duties related to reporting drinking water quality analyses. The agreement must contain the provision that the lab reports all analytical results directly to WSEB, the primacy agency. In most states and territories, the PWS submits water quality results from a certified lab to the primacy

agency. The primacy agency and federal government may never know of an MCL occurrence in these situations since the PWS may opt to resample or incur a monitoring violation rather than receive an MCL violation. New Hampshire PWSs do not have this option. The intent of this law was to protect consumer health from risks that could be caused by fraudulent data/sampling.

The majority of PWS violations that occurred in New Hampshire in 2002 were due to failure to monitor. While these violations are of concern, they are generally considered secondary to violations that more directly affect public health, such as violations occurring from exceeding a maximum contamination level. We believe that our modifications to the enforcement strategy will decrease the overall number of violations over the next few years as our enforcement presence is better recognized. In addition, the availability of sampling schedules and analysis forms over the internet is expected to reduce monitoring violations.

The majority of violations occurred at PWSs serving populations less than 500. Most of the systems with monitoring violations have previously monitored, and have not detected any regulated contaminants at levels affecting public health.

When a system addresses its violations, it returns to compliance (RTC). The time it takes for a NH water system to achieve RTC status varies depending upon the nature of the underlying violation. For example, a PWS receiving a TT violation under the SWTR may achieve RTC status in a month, but it may take a seasonal PWS up to a year to achieve RTC status following a TCR M/R violation.

REPORT AVAILABILITY AND CONTACT INFORMATION

The New Hampshire 2002 Annual Compliance Report may be obtained by contacting the New Hampshire Department of Environmental Services, Water Division, Water Supply Engineering Bureau, 6 Hazen Drive, PO Box 95, Concord, NH 03301. A summary report is available at the DES website at http://www.des.state.nh.us/wseb. A compilation of violations by calendar year is also available on the website. Violations may be accessed on a town-by-town basis. For further information concerning this report, please contact Laurie Cullerot, DES at (603) 271-2954 or lcullerot@des.state.nh.us.

View Appendices